

Appl. No. 10/041,875
Amdt. dated February 19, 2004
Reply to Office action of November 19, 2003

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Currently Amended): A coupler knuckle casting having an enhanced bearing surface area, said coupler knuckle casting utilized in a railway freight car coupler, said coupler knuckle casting having said enhanced bearing surface area comprising:

(a) a tail section;

(b) a hub section, said hub section having a pivot pinhole formed therein, said pivot pinhole ~~having generally straight cylindrical sidewalls;~~

(c) a front face section connected to said hub section, said front face section including a nose section and a pulling face portion formed inwardly from said nose section, at least a portion of said front face portion and said nose section includes an enhanced bearing surface area which includes a substantially flat portion disposed substantially in a vertical direction and which is substantially arcuate in a horizontal direction, said substantially flat portion extending for a predetermined distance in said vertical direction and for a predetermined length along said horizontal direction, ~~said predetermined length extends over at least a portion of said hub section and said front face section and at least a portion of said nose section;~~ and

(d) a transition section joining said tail section to said hub section, said transition section including a top metal section and a bottom metal section extending toward each other.

Claim 2 (Previously Amended): A coupler knuckle casting having an enhanced bearing surface area, according to claim 1, wherein said predetermined distance said

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substantially flat portion extends in said vertical direction is generally in a range of between about 3.5 inches and about 7.0 inches.

Claim 3 (Previously Amended): A coupler knuckle casting having an enhanced bearing surface area, according to claim 2, wherein said predetermined distance said substantially flat portion extends in said vertical direction is generally in a range of between about 4.0 inches and about 5.5 inches.

Claim 4 (Previously Amended): A coupler knuckle casting having an enhanced bearing surface area, according to claim 3, wherein said predetermined distance said substantially flat portion extends in said vertical direction is generally in a range of between about 4.0 inches and about 4.5 inches.

Claim 5 (Original): A coupler knuckle casting having an enhanced bearing surface area, according to claim 1, wherein said coupler knuckle is cast steel.

Claim 6 (Original): A coupler knuckle casting having an enhanced bearing surface area, according to claim 4, wherein said coupler knuckle is cast steel.

Claims 7-9 (Previously Canceled).

Claim 10 (Original): A coupler knuckle casting having an enhanced bearing surface area, according to claim 1, wherein said enhanced bearing surface area is hardened to a predetermined hardness.

Claim 11 (Original): A coupler knuckle casting having an enhanced bearing surface area, according to claim 10, wherein said predetermined hardness is at least about 40 Rockwell C.

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Claim 12 (Original): A coupler knuckle casting having an enhanced bearing surface area, according to claim 1, wherein said nose section includes a generally cylindrical opening formed in an end portion thereof.

Claim 13 (Currently Amended): In combination with a railway freight car coupler, the improvement comprising a coupler knuckle casting having an enhanced bearing surface area, said coupler knuckle casting having:

(a) a tail section;

(b) a hub section, said hub section having a pivot pinhole formed therein, said pivot pinhole ~~having generally straight cylindrical sidewalls~~;

(c) a front face section connected to said hub section, said front face section including a nose section and a pulling face portion formed inwardly from said nose section, at least a portion of said front face portion and said nose section includes an enhanced bearing surface area which includes a substantially flat portion disposed substantially in a vertical direction and which is substantially arcuate in a horizontal direction, said substantially flat portion extending for a predetermined distance in said vertical direction and for a predetermined length along said horizontal direction, ~~said predetermined length extends over at least a portion of said hub section and said front face section and at least a portion of said nose section~~; and

(d) a transition section joining said tail section to said hub section, said transition section including a top metal section and a bottom metal section extending toward each other.

Claim 14 (Original): The combination, according to claim 13, wherein said nose section includes a generally cylindrical opening formed in an end portion thereof.

Claim 15 (Currently Amended): In combination with an existing railway freight car coupler, the improvement comprising retrofitting a coupler knuckle casting having an

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enhanced bearing surface area into said existing railway freight car coupler, said coupler knuckle casting having:

- (a) a tail section;
- (b) a hub section, said hub section having a pivot pinhole formed therein, said pivot pinhole ~~having generally straight cylindrical sidewalls;~~
- (c) a front face section connected to said hub section, said front face section including a nose section and a pulling face portion formed inwardly from said nose section, at least a portion of said front face portion and said nose section includes an enhanced bearing surface area which includes a substantially flat portion disposed substantially in a vertical direction and which is substantially arcuate in a horizontal direction, said substantially flat portion extending for a predetermined distance in said vertical direction and for a predetermined length along said horizontal direction, ~~said predetermined length extends over at least a portion of said hub section and said front face section and at least a portion of said nose section; and~~
- (d) a transition section joining said tail section to said hub section, said transition section including a top metal section and a bottom metal section extending toward each other.

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Claim 16 (Original): The combination, according to claim 15, wherein said nose section includes a generally cylindrical opening formed in an end portion thereof.

Claim 17 (New): A coupler knuckle casting having an enhanced bearing surface area, according to claim 1, wherein said predetermined length along said horizontal direction which is substantially arcuate extends over at least a portion of said hub section, said front face section and at least a portion of said nose section.

Claim 18 (New): A coupler knuckle casting having an enhanced bearing surface area, according to claim 4, wherein said predetermined length along said horizontal direction which is substantially arcuate extends over at least a portion of said hub section, said front face section and at least a portion of said nose section.

Claim 19 (New): A coupler knuckle casting having an enhanced bearing surface area, according to claim 6, wherein said predetermined length along said horizontal direction which is substantially arcuate extends over at least a portion of said hub section, said front face section and at least a portion of said nose section.